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Medicare Health Outcomes Survey (HOS) Glossary

Activities of Daily Living (ADLs)	ADLs are the everyday activities involved in personal care. Physical or mental disabilities can restrict a person's ability to perform ADLs. The HOS collects information on limitations in performing the following six ADLs: eating, dressing, bathing, getting in or out of chairs, toileting, and walking. If a respondent has difficulty performing the activity without special equipment or help from another person, or does not perform the activity at all, the individual is deemed to have an activity limitation.
Affordable Care Act (ACA)	The Patient Protection and Affordable Care Act (PPACA), commonly called the ACA, is a U.S. federal statute signed into law on March 23, 2010. The law, along with the Health Care and Education Reconciliation Act of 2010, was the principal health care reform legislation of the 111th United States Congress. The ACA reformed certain aspects of the private health insurance industry and public health insurance programs, increased insurance coverage of pre-existing conditions, expanded access to insurance to over 30 million Americans, and increased projected national medical spending while lowering projected Medicare spending. In 2011, the U.S. Department of Health and Human Services (HHS) published final standards for data collection on race, ethnicity, sex, primary language, and disability status, as required by Section 4302 of the ACA. The law requires that data collection standards for these measures be used, to the extent practicable, in all national population health surveys sponsored by HHS and applies to self-reported information only.

Analytic Sample	Analytic samples are defined below for the three annual Medicare HOS reports: Baseline analytic sample is limited to seniors, age 65 years or older at baseline, who had a physical component summary (PCS) score or a mental component summary (MCS) score and a valid reporting unit (Medicare Advantage Organization [MAO]). HEDIS® HOS report sample is limited to seniors, age 65 years or older as of December 31 of the measurement year, who were sampled for a round of HOS data (see Round of HOS Data), and whose MAO had at least one measurable HEDIS® Effectiveness of Care rate (see Medicare *HEDIS® HOS Report*). Performance Measurement analytic sample for the HOS death analysis is limited to seniors, age 65 years or older at baseline, who had a PCS or MCS score at baseline, who were enrolled in their original MAO at follow-up, and whose original MAO was still participating in HOS at follow up, including contracts that consolidated after the baseline survey and by December 31 of the follow-up survey measurement year.
Behavioral Risk Factor Surveillance System (BRFSS)	The BRFSS is a continuous, state-based, random telephone survey of community-dwelling U.S. adults aged 18 and older that collects data regarding health-related risk behaviors, chronic health conditions, and use of preventative services. The BRFSS is administered and supported by the Centers for Disease Control and Prevention.
Beneficiary	An individual receiving benefits from the Medicare program.
Beneficiary Link Key	A unique, unidentifiable, system generated number that internally represents a Medicare beneficiary and is used when linking CMS data files.
Body Mass Index (BMI)	BMI is a measure that correlates with the amount of body fat in men and women and is calculated based on height and weight. The HOS collects information on self-reported height and weight to calculate BMI results. The formula for the calculation is: BMI = [weight in pounds/(height in inches)^2] x 703, which uses the height and weight to produce the standard measure of kg/m^2 units.

Boston University	Boston University School of Public Health, Health Law, Policy & Management Department, CAPP: Center for the Assessment of Pharmaceutical Practices works with the National Committee for Quality Assurance (NCQA) for the Medicare HOS Program to support the science of survey design and methodology. Analyses included psychometric comparisons of surveys used in the Medicare managed care and the Veteran's Health Administration programs, comparisons of health outcomes between the Medicare Advantage (MA) and Veterans Administration (VA) patient populations, and analysis of case-mix methodology employed by the HOS. Center for the Assessment of Pharmaceutical Practices Health Law, Policy & Management Department Boston University School of Public Health 715 Albany Street (T-3W) Boston, MA 02118 Website: www.bu.edu
Case-Mix Adjustment	A method that adjusts data results for patient characteristics that may include sociodemographic characteristics, chronic medical conditions, and functional status, which are known to be related to systematic biases in the way people respond to survey questions. The adjustment uses regression techniques and assumes that the control variables (covariates) have been measured accurately, that the model is correctly specified, and is applicable to all cases. In 2022, CMS updated the case-mix adjustment for the HOS performance measures from a multi-model approach requiring non-missing values for all covariates in each model to a single model with a contract mean-imputation approach for covariates with missing data (see Contract-Mean Imputation).
Centers for Disease Control and Prevention (CDC)	The CDC is the nation's leading public health agency, conducting critical science, tracking disease, and providing health information. More information about the CDC is available at www.cdc.gov.
Centers for Medicare & Medicaid Services (CMS)	CMS is part of HHS and is responsible for administering the Medicare, Medicaid, and Children's Health Insurance Programs. Centers for Medicare & Medicaid Services 7500 Security Boulevard Baltimore, MD 21244- Website: www.cms.gov

CMS Regions and Regional Offices

CMS has Regional Offices in ten major cities throughout the U.S., in addition to their Central Office in Baltimore. Each Regional Office enacts regulations, policies, and program guidance developed to achieve a high-quality health care system, and covers a specific group of states, and for some regions, U.S. Territories and Commonwealths, which are listed below. Additional information is provided on the CMS Regional Offices page at www.cms.gov.

Region	Regional Office	States
Region 1	Boston	CT, ME, MA, NH, RI, VT
Region 2	New York	NJ, NY, the Commonwealth of Puerto Rico (PR), and the Territory of the US Virgin Islands (VI)
Region 3	Philadelphia	DE, MD, PA, VA, WV, the District of Columbia (DC)
Region 4	Atlanta	AL, FL, GA, KY, MS, NC, SC, TN
Region 5	Chicago	IL, IN, MI, MN, OH, WI
Region 6	Dallas	AR, LA, NM, OK, TX
Region 7	Kansas City	IA, KS, MO, NE
Region 8	Denver	CO, MT, ND, SD, UT, WY
Region 9	San Francisco	AZ, CA, HI, NV, and the Pacific Territories of American Samoa (AS), Guam (GU), and the Commonwealth of the Northern Mariana Islands (MP)
Region 10	Seattle	AK, ID, OR, WA

Cohort

A cohort is a group of people who share a common designation, experience, or condition (e.g., people with Medicare). For the HOS, a cohort refers to the random sample of members that is drawn from each MAO with a minimum of 500 enrollees and surveyed annually (i.e., a baseline survey is administered to a new cohort each year). Two years later, the baseline respondents are surveyed again (i.e., follow-up measurement).

Committee on Performance Measurement (CPM)

The NCQA CPM is a diverse panel of independent scientists and representatives from health plans, consumers, federal policymakers, purchasers, and clinicians that oversees the evolution of the HEDIS® measurement set. NCQA's measure development process includes a rigorous review of published guidelines and published scientific evidence, and feedback from multi-stakeholder advisory panels, such as the Measurement Advisory Panels.

Contract-Mean Imputation (CMI)	Beginning in 2022 for the 2024 Star Ratings, CMS updated the case-mix specifications for the expected outcomes of the HOS performance measures. Under the CMI approach, a missing case-mix adjuster (covariate) for a member is replaced with the mean value for that adjuster for other members in the same contract who have responses contributing to the longitudinal PCS and MCS measures: *Improving or Maintaining Physical Health* and *Improving or Maintaining Mental Health* (see Medicare Star Ratings).
Data Evaluation	The process by which discrepancies within the HOS and HOS-M data are identified and resolved, including issues related to the data file structure, survey completion, record numbers, response validity, skip patterns, and data consistency.
Data Use Agreement (DUA)	A DUA is a formal request to obtain CMS data sets that contain protected health information (PHI) and/or personally identifiable information (PII). CMS makes Identifiable Data Files (IDFs), also known as Research Identifiable Files (RIFs), available to certain stakeholders as allowed by federal laws and regulations as well as CMS policy. Requests for these data files require a research protocol and DUA, and each study is subject to review and approval by the CMS Privacy Board. Once approved, the requestor must uphold the guidelines set forth in the agreement, which includes ensuring security requirements and confidentiality of the data. DUAs permit CMS to track and account for all disclosures of PII, a mandate of the Privacy Act of 1974 (see Research Data Files).
Data Users Guide (DUG)	A DUG is distributed with each MAO's Medicare HOS Performance Measurement data set and with each Program of All-Inclusive Care for the Elderly (PACE) organization's Medicare HOS-M data set to provide detailed documentation regarding member-level data file construction and contents. The Baseline and Performance Measurement DUGs, as well as DUGs for the HOS Public Use Files (PUFs), are available in the Data Users Guide section on the Data page at www.HOSonline.org. The HOS-M DUG is available on the HOS-Modified page at www.HOSonline.org.

Depression Screen (in the HOS)

Beginning with the 2013 HOS 2.5, two questions about depression were asked in the HOS. An MAO member is considered to have a positive depression screen when scoring a sum of three or more points from the two depression questions:

- Little interest or pleasure in doing things over past two weeks
- Feeling down, depressed, or hopeless over past two weeks

For the years 2009-2012, four questions were used to determine a positive depression screen, and three of those four questions were used for the years 1998-2008. A participant in the Medicare 1998-2012 HOS was considered to have a positive depression screen when answering "yes" to *any* of the applicable depression questions.

Due to the change in depression screening methodology, estimates of the proportion with a positive depression screen from the 2013 HOS 2.5 and subsequent versions are not comparable to estimates produced using the HOS versions 1.0 (1998-2005) or 2.0 (2006-2012).

Disenrollment

MAO members who respond at baseline and are not enrolled in their original MAO when the follow-up sample is drawn are considered disenrolled. There are two types of disenrollment:

Involuntary: The member's MAO is no longer a part of the HOS when the follow-up sample is drawn.

Voluntary: The member's MAO continues participating in the HOS; however, the member is not enrolled in the MAO when the follow-up sample is drawn.

Double Duty Surveys

Double duty surveys are indicated for MAO members who are randomly selected for a new baseline cohort and are eligible for the follow-up cohort in the same survey round (see Round of HOS Data). These members are sent one questionnaire, which is used for both the baseline and follow-up survey samples.

Dually Eligible

"Dually eligible" describes individuals who are enrolled in both Medicare and Medicaid. The term includes individuals who are enrolled in Medicare Part A and/or Part B, and receive full Medicaid benefits or cost sharing through one of the Medicare Savings Programs (MSPs). MSPs cover costs such as Part A premiums, Part A and Part B deductibles, coinsurance, and copayments depending on the program. Refer to www.medicaid.gov for more information.

Electronic Telephone Interviewing System	A system that provides interviewers with a standardized version of the survey (including questions, scripts, and prompts), to collect telephone interview data from a sampled member or a proxy. Interviewers attempt telephone follow up in English, Spanish, or Chinese when members fail to respond after a second mail survey or return an incomplete mail survey. Since 2019, Russian language surveys are available as part of a mail-only protocol.
Eligible HOS Sample	Eligible samples are defined below for two annual Medicare HOS reports: Baseline eligible sample includes health plan members who were randomly selected from their MAO, were seniors (age 65 years or older) or disabled (younger than age 65), and did not have an ineligible HOS survey. For data collection years 1998-2008, members were required to be continuously enrolled in their MAO for a six-month period to be eligible for sampling. Effective 2009, this requirement is waived. For data collection years 1998-2009, members with End Stage Renal Disease (ESRD) were excluded from the samples. Effective 2010, members with ESRD are no longer excluded. Since 2020, Institutional Special Needs Plan (I-SNP) members have been excluded at the Plan Benefit Package (PBP) level from the HOS baseline sample. Performance Measurement eligible sample is limited to seniors (age 65 years or older at baseline) who had a baseline PCS or MCS score and were enrolled in their original MAO when the follow-up sample was selected. Seniors who were disenrolled from their original MAO at the time of the follow-up sampling, or who were deceased at follow up, were not included in the eligible sample; however, they were included in the Performance Measurement analytic sample for the HOS death analysis.
Eligible HOS-M Sample	Beginning in 2010, the eligible sample for the Medicare *HOS-M Report* includes people with Medicare who were randomly selected from their PACE organization, were seniors and disabled members (age 55 years and older), resided in the community, did not have ESRD, and did not have an ineligible HOS-M survey. For data collection years 2005-2009, seniors and disabled members from Dual-Eligible Demonstration Projects in Massachusetts, Minnesota, and Wisconsin were also included.

Employer/Union Only Direct PFFS and PDP Contracts	An MAO under contract with an employer, labor organization, or the trustees of a fund established by one or more of these entities to furnish health benefits to current or former employees or members. Health benefits may be provided under employee sponsored Private Fee-For-Service (PFFS) and Prescription Drug Plan (PDP) contracts.
End Stage Renal Disease (ESRD)	ESRD is characterized by permanent kidney failure that is treated with dialysis or a transplant. Since 2010, MAO members with ESRD are included in the HOS baseline sampling and are included for the follow-up remeasurement two years later if they meet the other eligibility criteria for the Performance Measurement sample.
Fall Risk Management (FRM)	FRM is a HEDIS® measure comprised of four HOS questions to collect information on a member's history of falls or problems with balance or walking, a discussion of falls with a medical provider, and a provider's management of fall risk. NCQA calculates two rates: the Discussing Fall Risk rate and the Managing Fall Risk rate; the latter is used for the *Reducing the Risk of Falling* measure reported by CMS for the Medicare Star Ratings. Beginning in 2018, the Discussing Fall Risk denominator was expanded to include all members age 65 years or older who were seen by a practitioner in the past 12 months. See Medicare Star Ratings for more details.
Fully Integrated Dual-Eligible Special Needs Plan (FIDE SNP)	A FIDE SNP is a PBP within an MAO that integrates Medicare, Medicaid, and supplemental benefits into a single plan for eligible members. A FIDE SNP must have a capitated contract with a State Medicaid Agency for primary, acute, and long-term care. Starting in 2012, prospective FIDE SNPs may elect to report the HOS to determine if they are eligible for a frailty adjustment payment under the ACA, similar to payment provided to PACE programs. Since 2014, FIDE SNPs may choose either the HOS or HOS-M for their frailty assessment. (See Special Needs Plan and Plan Benefit Package).
Frequently Asked Questions (FAQs)	The HOS website has a FAQs selection at the bottom of each page that links to frequently asked questions and answers about the Medicare HOS and HOS-M (www.HOSonline.org).

Health Insurance Claim Number (HIC #)	The HIC #, usually the Medicare number, was the member-level unit of analysis for HOS reports from 1998-2019. Beginning in 2019, the Social Security Number (SSN) is removed and the new Medicare Beneficiary Identifier (MBI) number is added to new rounds of HOS data. The MBI number replaces the SSN-based HIC # (see Medicare Beneficiary Identifier). Beginning in 2020, the HIC # is removed from HOS data.
Health Plan Management System (HPMS)	HPMS is a full-service website where health and drug plans, plan consultants, third party vendors, and pharmaceutical manufacturers can work with CMS to fulfill the plan enrollment and compliance requirements of the MA and Medicare Part D prescription drug coverage programs. For more information, refer to https://hpms.cms.gov. The HOS module in HPMS has a dashboard with report and table selections. The selections for "Performance Measurement," "HEDIS HOS," "Baseline," and "HOS-M Feedback" link to the corresponding reports. Scores for HOS measures that are part of the Star Ratings are found in the "Star Ratings Validation" tables, and other measures not used in the Star Ratings are found in the "Aggregate Score Analysis" tables. The "HOS Program" selection has general information about the HOS.
Health Services Advisory Group (HSAG)	CMS contracts with HSAG to provide HOS data evaluation and analysis; develop and disseminate data files and reports; educate data users and stakeholders on HOS findings and applications; and conduct applied research with HOS data to support CMS priorities. Health Services Advisory Group 3133 East Camelback Road, Suite 140 Phoenix, AZ 85016 Website: www.hsag.com
Healthcare Effectiveness Data and Information Set (HEDIS®)	HEDIS® is the most widely used set of performance measures in the managed care industry and is developed and maintained by NCQA. The Medicare HOS is a HEDIS® Effectiveness of Care measure.

Health-Related Quality of Life (HRQOL)	The concept of HRQOL refers to a person or group's perceived physical and mental health over time. HRQOL is used to measure the effects of chronic illness to better understand how an illness interferes with a person's day-to-day life, and to measure the effects of numerous disorders, disabilities, and diseases in different populations. Tracking HRQOL can identify subgroups with poor physical or mental health and guide policies or interventions to improve their health.
Healthy Days Measures	The HOS instrument incorporates three Healthy Days questions from the CDC's BRFSS. Two items ask about physical and mental health during the previous thirty days, and one item asks respondents if poor physical or mental health limited them from doing their usual activities, such as self-care, work, or recreation. For additional information regarding the Healthy Days Measures and findings, please visit the CDC HRQOL website at www.cdc.gov/hrqol. Comparative national and state-level Healthy Days Measures data, including demographic breakdowns by age, sex, or race/ethnicity groups within each state, can be found on the CDC HRQOL Prevalence Data page at www.cdc.gov/hrqol/surveillance.htm.
HEDIS® Volume 6 Manual	The NCQA *HEDIS® Volume 6: Specifications for the Medicare Health Outcomes Survey* manuals are available from NCQA at www.ncqa.org/hedis/measures/hos. Released annually, the manuals contain information about the survey, measure descriptions, HEDIS® protocols, HOS and HOS-M questionnaires, and the text for the survey letters. (See also Quality Assurance Guidelines and Technical Specifications).
HOS Measure	The HOS measure assesses an MAO's ability to maintain or improve the physical and mental health functioning of its members over time. (See Medicare Health Outcomes Survey).
HOS Website	The CMS HOS website at www.cms.gov/Research-Statistics-Data-and-Systems/Research/HOS provides general information about the HOS program. A full description of the program may be found at www.HOSonline.org.

Ineligible HOS Survey	Ineligible surveys are defined below for the most recent Medicare HOS baseline and follow-up cohorts: Baseline ineligible survey meets one of the following criteria: the individual is deceased; has a bad address and phone number; has a bad address and mail-only protocol (*Russian only*); or has a language barrier. HEDIS® HOS ineligible survey meets one of the following criteria: the individual is deceased; has a bad address and phone number; has a bad address and mail-only protocol (*Russian only*); or has a language barrier. Follow-Up ineligible survey meets one of the following criteria: the individual has a bad address and phone number; has a bad address and mail-only protocol (*Russian only*); or has a language barrier.
Ineligible HOS-M Survey	Ineligible surveys for the Medicare HOS-M meet one of the following criteria: the member is deceased; has a bad address and phone number; has a bad address and mail-only protocol (*Russian only*); has a language barrier; or is removed from the sample due to death, institutionalization, or disenrollment after the sample is drawn.
Instrumental Activities of Daily Living (IADLs)	IADLs are activities that are often performed during a normal day by a person who is living independently in a community setting. Three such activities are included in the HOS: managing money, preparing meals, and taking medications as prescribed. Activities can also include shopping, telephone use, travel in the community, and housekeeping. IADLs measure a person's ability to live independently.
Likert Scale	A Likert Scale is an ordinal scale of responses to a question in an ordered sequence, such as from "(1) strongly disagree" through "(2) no opinion" to "(3) strongly agree." Rensis Likert, a social psychologist, developed an empirical method for assigning numerical scores to this type of scale.

Limited Data Set (LDS)	The HOS LDS files are comprised of the national sample for a cohort and contain responses to all survey items; however, specific direct person identifiers (i.e., name, address, and unique identifiers where available, such as HIC #, SSN, and MBI) are not included. The MAO contract number is blinded in the LDS and certain fields describing MAOs have been modified (e.g., categorical enrollment) or excluded (e.g., plan name). The files are constructed to prevent the identification of any health plan member or health plan. The data sets are available for researchers to request through a CMS DUA. For more information, including the LDS file specifications documents, go to the Research Data Files section on the Data page at www.HOSonline.org. To request an LDS, go to the CMS website at www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/LimitedDataSets/HOS.
Management of Urinary Incontinence in Older Adults (MUI)	MUI is a HEDIS® measure comprised of four HOS questions to gather data on involuntary leakage of urine also called urinary incontinence (UI), UI interference with daily activities or sleep, patient/provider discussion of UI, patient/provider discussion of UI treatment options, and the impact of UI. NCQA calculates three rates: the Discussing Urinary Incontinence rate, the Treatment of Urinary Incontinence rate, and the Impact of Urinary Incontinence rate. The Treatment of Urinary Incontinence rate is used for the *Improving Bladder Control* measure reported by CMS for the Medicare Star Ratings. (See Medicare Star Ratings for more details).
Medical Outcomes Study 36-Item Health Survey (MOS SF-36)	The MOS SF-36 is a generic, multi-purpose health survey with 36 questions. The 36-item survey is used to compute PCS and MCS scores. The MOS SF-36 was the core outcomes measure in the Medicare HOS Version 1.0 (HOS 1.0).
Medical Savings Account (MSA) Plan	An MSA plan combines a high-deductible health plan with a medical savings account. Enrollees of Medicare MSA plans can initially use their savings account to help pay for health care, and then will have coverage through a high-deductible insurance plan once they reach their deductible. Medicare MSA plans provide enrollees with more control over health care utilization, while still providing coverage against catastrophic health expenses.

Medicare	CMS administers Medicare, the nation's largest health insurance program, which covers over 65 million Americans. Medicare is a health insurance program for people aged 65 years or older, people younger than 65 with certain disabilities, and people with ESRD. Coverage is provided through the Original Medicare Plan (sometimes referred to as "fee-for-service"), or through a private MA health plan (see Medicare Fee-For-Service and Medicare Advantage Organization). Visit www.medicare.gov for additional information about the Medicare Program.
Medicare Advantage Organization (MAO)	MAOs are private organizations approved by Medicare to provide health care coverage offered at a uniform premium and uniform level of cost-sharing to people with Medicare residing in the service area. An MAO participates in Medicare Part C, which includes coverage for Medicare Part A (hospital insurance) and Part B (medical insurance), and usually includes Medicare Part D (prescription drug coverage). MAOs may offer extra benefits that the Original Medicare Plan doesn't cover, such as vision, hearing, or dental services. An MAO may be a coordinated care plan, including plans offered by Health Maintenance Organizations (HMOs), HMO Point-of-Service (HMO-POS) plans, regional or local Preferred Provider Organizations (PPOs), PFFS contracts, SNPs, or Employer/Union Only contracts, or other private plans such as MSA plans and Medicare-Medicaid Plans (MMPs). A SNP includes any type of coordinated care plan that meets the CMS SNP requirements and either exclusively enrolls special needs individuals as defined in Section 422.2 of the Code of Federal Regulations (CFR) or enrolls a greater proportion of special needs individuals than occurs nationally in the Medicare population as defined by CMS (see Special Needs Plan). An MMP is a private health plan that has been competitively selected and approved to provide integrated care to eligible full-benefit Medicare-Medicaid enrollees under the CMS Financial Alignment Demonstration (see Medicare-Medicaid Plan).

Medicare Beneficiary Identifier (MBI)	The MBI number is the member-level unit of analysis for the HOS reports. The MBI number is a unique, randomly generated 11-digit alphanumeric identifier for Medicare beneficiaries. The SSN-based HIC # was removed from Medicare cards and replaced with the new MBI number as a requirement of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). Beginning in 2019, MBI numbers are added to new rounds of HOS data. For FAQs about the MBI number, go to www.cms.gov/Medicare/New-Medicare-Card/NMC-FAQs-5-18.pdf.
Medicare Current Beneficiary Survey (MCBS)	The MCBS is a continuous, multipurpose survey of a nationally representative sample of the Medicare population, conducted by the CMS Office of Enterprise Data and Analytics (OEDA) through a contract with NORC at the University of Chicago. The central goals of MCBS are to determine expenditures and sources of payment for all services used by people with Medicare; to ascertain all types of health insurance coverage and relate coverage to sources of payment; and to trace processes over time and the impacts of program changes, satisfaction with care, and usual source of care.
Medicare Fee-For-Service	The Original Medicare Plan is a "fee-for-service" plan. Original Medicare has two parts: Part A (Hospital Insurance) and Part B (Medical Insurance). Medicare pays its share of the Medicare-approved amount, and members pay their share (coinsurance and deductibles). Members can join a separate Medicare PDP for their Part D drug coverage. For more information, refer to www.medicare.gov.

Medicare Health Outcomes Survey (HOS)	Collected since 1998, the HOS is the first patient-reported national health outcomes measure for the Medicare population in managed care settings, and therefore remains a critical part of assessing MAO quality. The Medicare HOS assesses an MAO's ability to maintain or improve the physical and mental health functioning of its member population over time. The survey is administered to a random sample of members from each MAO at the beginning of a two-year period and the baseline respondents are resurveyed at the two-year follow up. The goal of the Medicare HOS program is to gather valid and reliable clinically meaningful data that have many uses, such as for targeting quality improvement activities and resources; monitoring health plan performance and rewarding top-performing health plans; helping people with Medicare make informed health care choices; and advancing the science of functional health outcomes measurement. The HOS survey instruments are available from NCQA at www.ncqa.org/hedis/measures/hos (see also Medicare HOS Versions 1.0, 2.0, 2.5, and 3.0).
Medicare Health Outcomes Survey-Modified (HOS-M)	The HOS-M is an abbreviated version of the Medicare HOS. The HOS-M focuses on frail and elderly health plan members, and provides a summary of their demographic information, physical and mental health status, and selected health symptoms. The instrument contains six ADL items as the core items used to calculate a frailty adjustment factor for payment purposes. Among other questions, the survey also includes the physical and mental health status questions from the Veteran's RAND 12-Item Health Survey (VR-12), one question about memory loss interfering with daily activities, one question about urinary incontinence, and three questions related to proxy respondents. The HOS-M survey instruments are available from NCQA at www.ncqa.org/hedis/measures/hos.
Medicare *HEDIS® HOS Report*	The *HEDIS® HOS Report* contains information on the HEDIS® Effectiveness of Care process measures that were formerly reported in each MAO's *Baseline Report*. Since 2021, the *HEDIS® HOS Report* is made available through HPMS to all participating MAOs one year after the annual data collection is completed. The HEDIS® Effectiveness of Care process measures are used in the Medicare Star Ratings and are calculated from questions about the information and care members receive from their healthcare providers, using data from the baseline and follow-up cohorts in the same measurement year (i.e., a round of HOS data) (see Medicare Star Ratings).

Medicare HOS *Baseline Report*	The *Baseline Report* contains information on baseline measures of physical and mental health, chronic medical conditions, functional status (i.e., ADLs), sleep quality and duration, clinical measures (i.e., BMI), and other health status indicators collected on a random sample of MAO members in a single year. The *Baseline Report* is made available through HPMS to all participating MAOs one year after each baseline cohort data collection is completed. Downloads of the report include summary-level data in a comma separated values (CSV) file and contain contract-level survey responses, demographic data, and other reported health status measures (see Medicare HOS Summary-Level Data). Beginning in 2021, the HEDIS® Effectiveness of Care process measures are reported in a separate *HEDIS® HOS Report*.
Medicare HOS Performance Measurement Member-Level Data	Member-level data from the *Performance Measurement Report* are distributed each year to MAOs that request their data (via email to hos@hsag.com). The new cohort data are made available one year after collection of the follow-up component of a cohort. The data are provided in a CSV file and contain member identifying information (e.g., name, address, and Medicare number), and member-level data for the baseline and follow-up survey responses, demographic information, and calculated fields (e.g., PCS and MCS scores, Physical Functioning Activities of Daily Living [PFADL] scores, BMI, and a depression screen). Detailed documentation regarding data file construction and contents are distributed with all data sets in the accompanying DUG.
Medicare HOS *Performance Measurement Report*	The *Performance Measurement Report* results reflect an MAO's ability to maintain or improve the physical and mental health functioning of its members over a two-year period, based on measures of change in physical and mental health over time for a representative sample of members. Additionally, baseline and follow-up information is provided for chronic medical conditions, functional status (i.e., ADLs), sleep quality and duration, clinical measures (i.e., BMI), and other health status indicators. The *Performance Measurement Report* is made available through HPMS to all participating MAOs one year after the collection of follow-up data on each cohort. Downloads of the report include summary-level data in a CSV file that contains contract-level survey responses, demographic data, and the HOS functional health measures used in the Medicare Star Ratings (see Medicare HOS Summary-Level Data).

Medicare HOS Summary-Level Data	Beginning in 2013, each MAO's summary-level data from their *Baseline* and *Performance Measurement Reports* are included with each PDF report in a ZIP file that can be downloaded from HPMS. The data summarize the responses to the survey questions, as well as demographic information, PCS and MCS scores, PFADL scores, BMI, and a depression screen. Since 2014, the results of measures reported for the Medicare Star Ratings are shown in CSV files. Since 2021, the summary-level data for the HEDIS® Effectiveness of Care measures used in the Medicare Star Ratings are included in the ZIP file with each *HEDIS® HOS Report*.
Medicare HOS Version 1.0 (HOS 1.0)	The HOS 1.0 consists of four components: physical and mental health status questions; HEDIS® Effectiveness of Care measures for management of urinary incontinence and physical activity; questions for case-mix and risk adjustment purposes; and additional health questions. The original HOS 1.0 was used for data collection years 1998-2005 and included the MOS SF-36 as the core physical and mental health outcomes measures. In 2003, three Healthy Days questions from the CDC's BRFSS were added to the HOS and four questions were added to support the *Management of Urinary Incontinence in Older Adults* measure. In 2005, two questions were added to support the *Physical Activity in Older Adults* measure.
Medicare HOS Version 2.0 (HOS 2.0)	Implemented in 2006, the HOS 2.0 reduced the core physical and mental health outcomes measures from 36 items to 12 items, using the VR-12. Conversion formulas have been developed and validated for the 36-item measure and the 12-item measure that will allow comparison of HOS 1.0 and HOS 2.0 results. Additional changes to the original HOS measure include the removal of redundant or less useful items, the addition of HEDIS® Effectiveness of Care measures for osteoporosis testing and fall risk management, and height and weight questions for calculation of BMI. One question was added to support the *Osteoporosis Testing in Older Women* measure and four questions were added to support the *Fall Risk Management* measure.

Medicare HOS Version 2.5 (HOS 2.5)	Implemented in 2013, the HOS 2.5 uses the VR-12 as the core physical and mental health outcomes measures and includes four HEDIS® Effectiveness of Care measures: the *Osteoporosis Testing in Older Women, Physical Activity in Older Adults, Management of Urinary Incontinence in Older Adults,* and *Fall Risk Management*. Changes in the HOS 2.5 compared to the HOS 2.0 include the following: as part of Section 4302 of the ACA (see Affordable Care Act), existing questions on race, ethnicity, sex, and disability were revised and new questions were added on disability and primary language. New questions also included IADLs (see Instrumental Activities of Daily Living) and a new pain-level rating. Two questions about vision and hearing and four questions previously used for a depression screen were replaced with new questions. In 2014, minor modifications to the HOS 2.5 were made by revising eight questions and removing six questions.
Medicare HOS Version 3.0 (HOS 3.0)	Implemented in 2015, the HOS 3.0 contains the majority of questions from the HOS 2.5 and uses the VR-12 as the core physical and mental health outcomes measures. The HOS 3.0 includes three HEDIS® Effectiveness of Care measures: *Physical Activity in Older Adults, Management of Urinary Incontinence in Older Adults,* and *Fall Risk Management* measures. Unlike the previous versions of HOS, the HOS 3.0 uses a two-column layout for each page. Other modifications include the following: the HEDIS® questions about urinary incontinence were revised; new questions about the quality and duration of sleep in the past month were added; and one question that asked how well the member spoke English was revised to ask about the primary language spoken at home. In 2021, the question about osteoporosis testing was removed and response levels for the pain-level rating were revised to 0 ("No pain") – 10 ("Worst imaginable pain"). In 2022, questions about Arthritis of the Hip or Knee, Arthritis of the Hand or Wrist, Sciatica, Smoking, and Income were removed.
Medicare HOS-M Member-Level Data	Member-level data from the *HOS-M Report* are distributed each year to PACE organizations that request their data (via email to hos@hsag.com). Data are made available one year after data collection. The data are provided in a CSV file and contain the survey responses and calculated fields (e.g., PCS and MCS scores). Detailed documentation regarding data file construction and contents are distributed with all data sets in the accompanying DUG.

Medicare *HOS-M Report*	The *HOS-M Report* summarizes the results for demographic information, ADLs, physical and mental health status, and selected health symptoms from the survey. The *HOS-M Report* is made available through HPMS to all participating PACE organizations one year after each HOS-M data collection is completed.
Medicare-Medicaid Coordination Office (MMCO)	Section 2602 of the ACA created the Federal Coordinated Health Care Office, also known as the Medicare-Medicaid Coordination Office (MMCO), to develop person-centered care delivery models integrating the full range of medical, behavioral health, and long-term services and supports for dually eligible Medicare-Medicaid enrollees. The MMCO works with the Medicare and Medicaid programs across federal agencies, states, and stakeholders to align and coordinate benefits between the two programs, enhance access to quality services, and contain costs for dually eligible individuals (see Medicare-Medicaid Plan).
Medicare-Medicaid Plan (MMP)	An MMP is a demonstration plan that coordinates benefits between the Federal Government and states to provide quality health care services to members who are enrolled in both the Medicare and Medicaid programs (Medicare-Medicaid enrollees) sometimes referred to as "dually eligible" individuals. The MMP enrollees experience high rates of chronic illness, with many having long-term care needs and social risk factors. The demonstration is an integrated care model with the goal of providing the full range of medical, behavioral health, and long-term services and supports for the dually eligible individuals, who often have complex and costly health care needs (see Medicare-Medicaid Coordination Office).

Medicare Star Ratings

The Medicare Star Ratings, formerly referred to as the Plan Ratings, were developed by CMS to rate the relative quality of service of MAOs based on a five-star rating scale and to reward high performing health plans. Quality measures, including five from the HOS, are collected for the Medicare Star Ratings, which are displayed in the Medicare Plan Finder (MPF) tool on www.medicare.gov/plan-compare.

Three HEDIS® Effectiveness of Care rates, reported for MAOs in the *HEDIS® HOS Report* and on HPMS, are used for the following Medicare Star Ratings measures:

- HEDIS® Treatment of Urinary Incontinence rate (*Improving Bladder Control* measure)
- HEDIS® Managing Fall Risk rate (*Reducing the Risk of Falling* measure)
- HEDIS® Advising Physical Activity rate (*Monitoring Physical Activity* measure)

Two HOS functional status results, reported in the HOS *Performance Measurement Reports* and on HPMS, are used for the Medicare Star Ratings measures and the PFADL result remains under development:

- Physical Health Percent Better or Same result (*Improving or Maintaining Physical Health* display measure)
- Mental Health Percent Better or Same result (*Improving or Maintaining Mental Health* display measure)
- PFADL change score result (in development) (*Physical Functioning Activities of Daily Living* display measure)

Note: Beginning with the 2019 Star Ratings, MAO members with a Hospice enrollment were excluded from all three HEDIS® Effectiveness of Care rates. Information about the HOS measures and other measures used in the Medicare Star Ratings is available from the CMS website at https://go.cms.gov/partcanddstarratings.

Mental Component Summary (MCS) Score

The MCS score is derived from the VR-12, the core health outcomes measure included in the HOS, and is a reliable and valid measure of mental health. The scores are calculated using the Modified Regression Estimate (MRE) algorithm. For the MCS, very high scores (scale 0–100) indicate frequent positive affect, absence of psychological distress, and no limitations in usual social and role activities due to emotional problems.

Mode of Administration	The standard protocol for administering the HOS employs a combination of mail and telephone modes of administration. If a member fails to respond after two survey mailings, or returns a blank or incomplete mail survey, the survey vendor tries to contact the member by telephone to obtain the survey responses (see Electronic Telephone Interviewing System).
Modified Regression Estimate (MRE)	The MRE is a method in which surveys with missing data can be scored through an imputation process. When a survey is missing data across the VR-12 items, PCS and MCS scores are imputed using the MRE. With the use of the MRE algorithm, PCS and MCS scores can be calculated in as many as 90% of the cases in which one or more VR-12 responses are missing. Depending on the pattern of missing item responses for a member, a different set of regression weights is required to compute that individual's PCS and/or MCS scores.
National Committee for Quality Assurance (NCQA)	CMS contracts with NCQA to implement the HEDIS® Medicare HOS, which includes managing the data collection and transmittal of the HOS data, supporting the development and standardization of the HOS measure, conducting annual training and ongoing evaluation of CMS-approved HOS survey vendors, and conducting ongoing quality assurance of the survey process. National Committee for Quality Assurance 1100 13th Street, NW, Third Floor Washington, DC 20005 Website: www.ncqa.org
Newsletter	The HOS Newsletter is distributed to users of HOS data twice a year. The goal of the newsletter is to help MAOs use their HOS reports and data to promote quality preventive care for the elderly, develop quality improvement strategies, and share best practices. The newsletter contains information about HOS products, services, timelines, and program updates. Contact Medicare HOS Information and Technical Support at hos@hsag.com to sign up for the email distribution or to contribute ideas for quality improvement to share with other MAOs through the newsletter. Newsletters are available at www.hosonline.org.

Osteoporosis Testing in Older Women (OTO)	OTO was a HEDIS® measure collected from one HOS question that assessed the percentage of women aged 65–85 years who reported ever having received a bone density test to check for osteoporosis. Osteoporosis is characterized by low bone mass and deterioration of bone strength, which leads to an increased risk of fractures. The OTO measure was used by CMS as part of the Medicare Star Ratings from 2009–2011. Between 2012 and 2020, the OTO measure was moved to the display measures at https://go.cms.gov/partcanddstarratings. In 2021, the OTO measure was retired by the measure steward (NCQA) and the question was removed from the HOS.
Outcome	The Medicare HOS defines outcome as a change in health status over time, which is characterized in terms of the direction and magnitude for a given respondent. The three major Medicare HOS outcomes are death, change in physical health, and change in mental health.
Outlier(s)	For the Performance Measurement analysis, MAOs with members displaying physical or mental health characteristics that are significantly different from the HOS national average are identified as outliers. Based on the results, an MAO that is designated as "worse than expected" for a measure is a negative outlier and an MAO designated as "better than expected" is a positive outlier.
Performance Measurement Results	Performance Measurement Results are the MAO-level adjusted differences between the HOS baseline and two-year follow-up scores, which are presented as better, same, or worse than expected for physical and mental health.
Personally Identifiable Information (PII)	PII is any information that may reveal an individual's identity (i.e., name, Social Security Number) alone or in combination with other potentially identifying information that can be traced to a particular person (i.e., date of birth, place of birth). (www.gsa.gov/reference/gsa-privacy-program/rules-and-policies-protecting-pii-privacy-act)

Physical Activity in Older Adults (PAO)	PAO is a HEDIS® measure comprised of two HOS questions to gather data on a patient's discussion and the management of physical activity with a doctor or other health provider. Regular leisure time physical activity includes light to moderate activity that causes only light sweating or slight or moderate increases in breathing or heart rate (i.e., activity at least five times per week for at least 30 minutes) or vigorous activity that causes heavy sweating or large increases in breathing or heart rate (i.e., activity at least three times per week for at least 20 minutes). NCQA calculates two rates: the Discussing Physical Activity rate and the Advising Physical Activity rate; the latter is used for the *Monitoring Physical Activity* measure reported by CMS for the Medicare Star Ratings. See Medicare Star Ratings for more details.
Physical Component Summary (PCS) Score	The PCS score is derived from the VR-12, the core outcomes measure included in the HOS, and is a reliable and valid measure of physical health. The scores are calculated using the MRE algorithm. For the PCS, very high scores (scale 0-100) indicate no physical limitations, disabilities or decline in well-being; high energy level; and a rating of health as "excellent."
Physical Functioning Activities of Daily Living (PFADL) Scale and Change Score Measure	The PFADL scale combines two VR-12 physical functioning questions (limitations in moderate activities and climbing stairs) with the six ADL questions from the HOS to create a Likert-type scale. PFADL scales are created from responses to the baseline and two-year follow-up questions and are used to derive the longitudinal PFADL change score measure. The methodology used to create the longitudinal measure is described on the Survey Results page of the HOS website (www.HOSonline.org).
Plan Benefit Package (PBP)	A PBP is a unique benefit package within an MA contract that provides a prescribed set of benefits to an enrolled member. Each MA PBP must offer at least the same level of coverage as Medicare Part A and Part B but many PBPs offer additional benefits, including Medicare Part D prescription drug coverage, routine vision care, hearing aids, routine dental care, or fitness center membership.
Plan Ratings	See Medicare Star Ratings.

Preferred Provider Organization (PPO)	A PPO is a plan that (1) has a network of providers who have agreed to a contractually specified reimbursement for covered benefits; (2) provides reimbursement for all covered benefits regardless of whether the benefits are provided within the network of providers; and (3) is offered by an organization that is not licensed or organized under State law as an HMO. There are two types of PPOs. Local PPOs are plans that serve the counties the PPO chooses to include in its service area. Regional PPOs are plans that serve one or more of 26 regions established by Medicare that may include a single state or a multi-state area.
Private Fee-For-Service (PFFS) Contract	A PFFS contract is offered by a state licensed risk-bearing entity that has a yearly contract with CMS to provide members with all their Medicare benefits plus any additional benefits the company decides to offer. People with Medicare who enroll in a PFFS MAO are not required to use a network of providers. Members can see any provider who is eligible to receive payment from Medicare and agrees to accept payment from the PFFS MAO.
Program of All-Inclusive Care for the Elderly (PACE) Organization	A PACE organization delivers all needed medical and supportive services to provide the entire continuum of care and services to seniors with chronic care needs, while maintaining members' independence in their homes for as long as possible. Social and medical services are delivered primarily in an adult day health center, supplemented by in-home and referral services as needed. Most members are dually eligible individuals; that is, they receive both Medicare and Medicaid coverage. PACE organizations participate in the HOS using the Medicare HOS-M.
Protected Health Information (PHI)	PHI is any information about health status, provision of health care, or payment for health care that is created or collected by a Covered Entity (such as a hospital or health plan) and can be linked to a specific individual. This includes any part of a patient's medical record or payment history. (www.hhs.gov/answers/hipaa/what-is-phi)
Proxy Respondent	An individual, such as a family member, friend, or caregiver, who completes a survey on behalf of the MAO or PACE organization member.

Public Use File (PUF)	The HOS PUFs are comprised of the respondent sample for a cohort and contain responses to most survey items (excluding member and plan identifying information), as well as selected administrative variables. Two types of PUFs are available. The Baseline PUFs are available for a new cohort one year after the baseline data collection and the Analytic PUFs are available for the completed cohort one year after the follow-up data collection. The files are constructed to prevent the identification of any health plan member or health plan. HOS PUFs are available at no cost and can be downloaded from the Research Data Files section on the Data page at www.HOSonline.org.
Quality Assurance Guidelines and Technical Specifications (QAG)	Since 2016, the HOS QAGs are available in the Survey Administration section on the Program page at www.HOSonline.org. The publications detail the requirements, protocols, and procedures for the HOS administration that standardize the data collection process across the CMS-approved HOS survey vendors.
Research Data Files	Medicare HOS research data files, such as PUFs, LDSs, and RIFs, are available for researchers. Information about the files is available in the Research Data Files section on the Data page at www.HOSonline.org.
Research Data Assistance Center (ResDAC)	ResDAC, at the University of Minnesota, is a CMS contractor that assists academic, government, and non-profit researchers interested in using Medicare and/or Medicaid data. ResDAC is available to assist in the completion and/or review of data requisition forms for Medicare HOS RIFs prior to their submission to CMS. Researchers may request HOS RIFs through a CMS DUA. For additional information and assistance, refer to the ResDAC website at www.resdac.org. ResDAC may also be contacted by calling (888) 9RESDAC or (888) 973-7322 between the hours of 8am to 4:00pm CT Monday through Friday or by emailing resdac@umn.edu.

Respondent Sample

Respondent samples are defined below for the two annual Medicare HOS reports:

Baseline respondent sample, for the purpose of calculating the Baseline response rate, is limited to eligible MAO members, including seniors (age 65 years or older) and disabled members (younger than age 65), who have a baseline PCS or MCS score. For the baseline analysis, however, the Baseline analytic sample is limited only to eligible seniors who have a baseline PCS or MCS score.

Performance Measurement respondent sample for the analysis of PCS and MCS change scores is limited to seniors who completed the HOS at baseline and follow up, for whom PCS and/or MCS scores could be computed at both time points, and who were enrolled in their original MAO when the follow-up sample was selected.

Response Rate

Response rates are defined below for the two annual HOS reports:

Baseline response rate is calculated based on the number of eligible MAO members who have a PCS or MCS score at baseline, divided by the number of eligible members sampled (excluding ineligible surveys).

Performance Measurement response rate is calculated based on the number of eligible members who have a PCS or MCS score at follow up, divided by the number of eligible members sampled (excluding ineligible surveys).

Round of HOS Data

A round of HOS data includes the baseline and follow-up cohorts from the same measurement year and the same HOS instrument is used to collect the data. The new baseline cohort is reported in the annual *Baseline Report*. The two-year follow-up cohort is merged with the baseline data collected two years prior and reported in the annual *Performance Measurement Report*. The round of data that combines the baseline and follow-up cohorts from the same measurement year is used for the *HEDIS® HOS Report*. Surveys for double duty members, who were sampled for both a new baseline cohort and the follow-up cohort, are only used once for the *HEDIS® HOS Report* (see Double Duty Members).

RTI International

RTI International is NCQA's subcontractor for HOS sampling and special analyses and is the CMS contractor for sampling and calculating results for the HOS-M. RTI provides survey support in the administration of the HOS-M and assists with the calculation of ADLs for payment adjustment.

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Sample Size

For HOS data collection years 1998-2006, the MAO baseline sample size was 1,000. Effective in 2007, the standard baseline sample size was increased to 1,200.

- For MAOs with 1,200 or more members, 1,200 members are randomly sampled annually from all PBPs in the contract.
- For MAOs with a population of 500-1,200 members, all eligible members are surveyed.
- MAOs with fewer than 500 members are exempt from reporting the baseline survey.

Beginning in 2019, MAOs may voluntarily request a survey sample larger than 1,200. Oversampling can only occur at the contract level for the baseline sample and is expressed as a whole percentage of the standard sample size.

For the HOS-M data collection, the sample size is 1,200. For PACE organizations with 1,200 or more members, 1,200 members are randomly sampled annually from all PBPs. For PACE organizations with less than 1,200 enrollees, all eligible members are surveyed.

MAOs sponsoring FIDE SNP PBPs with a minimum of 50 members can elect to report HOS or HOS-M at the PBP level for a frailty assessment. Voluntary reporting for frailty assessment at the FIDE SNP level is in addition to the standard HOS requirements for quality reporting at the contract level.

SAS® Software	SAS is an integrated system of software products provided by SAS Institute Inc., which enables programmers to perform information retrieval and data management, report writing and graphics, statistical analysis, econometrics, and data mining. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. The symbol ® indicates USA registration.
Sleep Quality and Duration	Beginning with the 2015 HOS 3.0, two questions about sleep quality and duration during the past month were added to the survey. Sufficient sleep is increasingly recognized as an essential aspect of chronic disease prevention. The HOS questions ask members to rate the following: • Average number of hours of actual sleep at night • Rating of overall sleep quality from very good to very bad
Special Needs Plan (SNP)	SNPs were created by Congress in the Medicare Modernization Act (MMA) of 2003 as a new type of Medicare managed care plan focused on certain vulnerable groups of people with Medicare who require more coordinated care, such as the frail elderly who live in specific types of institutions (I-SNP), dually eligible individuals (D-SNP), or individuals with severe or disabling chronic conditions (C-SNP). SNP members are sicker and frailer than most individuals served through the MA program, and thus are more challenging to treat. Since 2020, I-SNP PBPs have been excluded from the HOS baseline; however, I-SNP members who returned a 2018 baseline survey were remeasured for the 2020 follow-up survey.
Surveillance, Epidemiology, and End Results-Medicare Health Outcomes Survey (SEER-MHOS)	SEER-MHOS is a surveillance data set that links data on cancer patients to patient-reported HRQOL outcomes available in the HOS. Information about the SEER-MHOS linked data set may be found on the National Cancer Institute (NCI) SEER-MHOS Linked Database website at https://healthcaredelivery.cancer.gov/seer-mhos/.
Survey Vendor	An independent survey organization that is approved by CMS to administer the HOS Survey. NCQA conducts survey vendor training and other survey oversight activities. The lists of HOS and HOS-M survey vendors are available in the Survey Vendor sections on the Program page at www.HOSonline.org.

Technical Support	Medicare HOS Information and Technical Support at hos@hsag.com or (888) 880-0077 is available to provide technical assistance for questions about HOS and HOS-M reports, data availability, and DUA applications.
Veterans RAND 12-Item Health Survey (VR-12©)	The VR-12 is a generic health questionnaire developed from the Veterans Health Study and was adapted from the RAND 36-Item Health Survey and the Medical Outcomes Study. The taxonomy underlying the construction of the VR-12 scales and summary measures is comprised of a total of 14 items. Twelve items are used to compute the eight scales that aggregate one or two items each, and the PCS and MCS scores. Two items assess change in health, one focusing on physical health and one on emotional problems. The VR-12 was used as the core outcomes measure for the Medicare HOS 2.0, the Medicare HOS 2.5, the Medicare HOS 3.0, and the Medicare HOS-M. Information about the VR-12 instrument is available on the Boston University School of Public Health website. The website offers details on the development, applications, and references for the VR-12. For information about the VR-36, VR-12, and VR-6D instruments and to request permission to use the documentation and scoring algorithms for the measures, go to www.bu.edu/sph/about/departments/health-law-policy-and-management/research/vr-36-vr-12-and-vr-6d.